

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Communications Assistance for)	ET Docket No. 04-295
Law Enforcement Act and)	
Broadband Access and Services)	RM-10865

Comments of Subsentio, Inc.

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COMMENTS OF SUBSENTIO, INC.

Subsentio, Inc. submits its comments through the undersigned and pursuant to the Federal Communications Commission's (FCC's or Commission's) Notice of Proposed Rulemaking (NPRM) and Declaratory Ruling in the matter of Communications Assistance for Law Enforcement Act and Broadband Access and Services.

BACKGROUND

Subsentio, Inc. is a systems integration and consulting firm that focuses exclusively on Lawful Intercept (LI) and Network Security solutions for Law Enforcement Agencies (LEA's) and the telecommunications industry. The company's founder and its staff have years of experience representing the leading CALEA compliance Manufacturers and Service Bureau companies in the industry. As a result, Subsentio has a unique perspective on the issues in the NPRM. It has consulted on intercept solutions for law enforcement agencies, telecommunication switch manufacturers, and wireless and wire line service providers that range in size from millions of subscribers to rural Telcos with 2,000 subscribers or less.

CLOSING SECURITY HOLES IN THE NATIONS TELECOMMUNICATION NETWORKS

Subsentio commends and supports the FCC for the work it has done in the NPRM to continue closing the nation's security holes for electronic surveillance. The proliferation of new technologies, while creating multiple advantages for the consumer, also has created opportunities for criminals and terrorists to communicate without being monitored by the Nation's LEA's.

For example, it is well known throughout the industry that for years the communication device of choice for criminals has been "push-to-talk" devices simply because criminals have known that LEA's have been unable to monitor their conversations on these appliances. The four primary arguments that have been presented to the commission in numerous forums as for why this and other loopholes in the industry existed include:

- Right to privacy
- Complexity of the technology
- Lack of regulations requiring carriers to support LEA's for this technology
- Cost and cost recovery

Right to privacy

Subsentio strongly supports the citizens of the United States of America and their right to privacy as is clearly defined in the 4Th amendment. However, when there is probable cause that what is being done in private is potentially harmful or unlawful then Subsentio firmly supports the nation's LEA's in using electronic surveillance as a means to thwart that activity to protect United States citizens. The FCC clearly supports this position by responding to Law Enforcement's Petition for Rulemaking with the NPRM. We commend the commission for striking the right balance between the right to privacy issues and protecting the citizens of the United States of America.

Technical Complexity

Subsentio's experience has been that the technical complexities for electronic surveillance can always be resolved, regardless of the technology. The telecommunications industry is filled with brilliant engineers that can, has, and will continue to solve any challenges that present themselves with new technologies. Subsentio concedes there is much work to be done in developing common standards but technical issues have never been the primary reason for the security holes in our networks.

Lack of Regulations

Until the release of the NPRM by the FCC, the lack of regulatory guidance stalled the telecommunication industry's attempts to voluntarily assist LEA's needs in keeping up with all the new methods of communicating since the original CALEA law was enacted.

Again, Subsentio applauds the FCC for clearly defining what is required for CALEA compliance. The telecommunications industry is highly competitive and as a result, any company that was capable of replacing the Public Switched Telephone Network (PSTN) with a service that did not have to comply with Lawful Intercept requirements had a competitive cost advantage that needed to be eliminated. The NPRM effectively removes the regulatory uncertainty in closing the Nation's telecommunications security holes.

This leaves cost recovery as the single largest impediment to filling all the security holes that exist in our networks. The issue is complex for various reasons, many of which the FCC has asked for comments on in the NPRM in Section F. Cost and Cost Recovery Issues. It is this critical area that Subsentio will focus on for the remainder of its comments.

COST and COST RECOVERY

As noted in paragraph 117 of the NPRM, Congress appropriated \$500 million to upgrade pre-1995 equipment and facilities. While the intent of a government funded mandate to solve the lawful intercept problem was admirable, it is Subsentio's belief that government funding only creates more problems than it solves. The appropriations bill took away the advantages of a competitive marketplace. It stifled competition, allowed for inflated prices, and did not plan for future LEA needs as the telecommunications industry evolves. A competitive marketplace will solve the cost issues in the NPRM. It will promote competition, stimulate creativity, and reduce costs long term.

Subsentio also notes that in paragraph 117 of the Cost and Cost Recovery Section the FCC does not have "solid cost estimates for CALEA implementation of post-January 1, 1995 equipment and facilities" and that "the need for significant capital expenditures associated with CALEA are expected to continue into the future". Without this information, it is impossible for anyone to comment on many of the questions posed by the FCC in this section of the NPRM. Therefore, in order to frame its comments as requested by the FCC, Subsentio submits the following cost estimates for capital expenditures for CALEA implementation.

Cost Estimates

Cost estimates for CALEA implementation should be viewed in its simplest form; cost per subscriber per month. To create a fair and accurate cost estimate, Subsentio used a service bureau model because it is the only way to remove all the variables service providers may have in determining their costs. Operational costs for administration, provisioning, monitoring, and delivering call data and call content can be absorbed by the service bureau. In addition, capital costs to upgrade switches for both software and hardware can also be absorbed into a service bureau application, regardless of the technology.

The model Subsentio has built includes installation charges and spreads out the costs for both installation and monthly service fees over a 60 month period. It is also an estimate for CALEA compliance per application. Multiple applications could increase the cost per subscriber.

The model is technology neutral. While the types of solutions may vary, the estimates apply to both voice and packet data services using existing standards for CALEA compliancy.

By factoring in all of these variables into a service bureau approach, the estimated cost per subscriber breaks down as follows:

Number of Subscribers	Average Estimated Voice and Data CALEA Costs per Subscriber per month
2,000	\$ 0.333
5,000	\$ 0.133
10,000	\$ 0.066
20,000	\$ 0.050
40,000	\$ 0.033
80,000	\$ 0.021
125,000	\$ 0.020
250,000	\$ 0.012
500,000	\$ 0.012
1,000,000	\$ 0.008
5,000,000	\$ 0.003
10,000,000	\$ 0.003

Cost Estimate Conclusions

As in most business models there are economies of scale and CALEA compliance is no exception. Small service providers, whether they are rural Telcos, or startups offering VoIP do not have the same advantages as companies with a larger customer base. However, since a service bureau can spread its costs over multiple applications and subscribers, its model is more cost effective than other alternatives. As an example, Subsentio is aware of one rural Telco that was quoted \$600,000 to upgrade their switch with software for

CALEA compliance yet they had less than 100 subscribers; a cost of \$100 per subscriber per month.

As the amount of subscribers goes up and the cost per subscriber goes down, service providers have more options. For instance, the model may change for large service providers that have imbedded costs in an infrastructure that already supports CALEA. In those cases, purchasing directly from a Lawful Intercept solutions provider may be preferable. Again, Subsentio is an advocate for a competitive marketplace and encourages companies to explore their options.

Should Carriers Bear Sole Responsibility

Being a telecommunications carrier as defined by the FCC carries certain responsibilities. They include offering emergency services and now with this NPRM it will also include CALEA compliance. Moving forward, all telecommunications carriers will need to include CALEA compliance when they make decisions on deployment of new technologies. Subsentio agrees with the Commission's tentative conclusion in paragraph 125 that "carriers bear responsibility for CALEA development and implementation costs for post-January 1995 equipment and facilities."

This applies to regulated and unregulated telecommunication carriers. The Commission cannot allow regulated or unregulated companies to create more security holes in our nation's networks. If an entity wants to be in the

telecommunications business, they must provide the means for electronic surveillance. The language is clear and does not need specific rules beyond what has been defined in the NPRM.

Circuit Mode and Packet Mode Costs

As stated earlier, the industry will always be able develop solutions for electronic surveillance. The costs for that will vary depending on the technology but the FCC should be technology neutral in this regard and let the carrier's make their decisions based on what is available in the marketplace and the costs for including CALEA in their deployment of new technologies. In our opinion, it would create competitive advantages for carriers to differentiate costs and cost recovery by the technology used.

Cost Recovery Devices

There are multiple problems with any of the suggested models in the NPRM. The costs for Electronic Surveillance will constantly change depending on the technology, amount of subscribers, and other factors. The dynamic and evolving nature of the telecommunications industry makes it nearly impossible to sustain "equitably spread costs among the general public."

At the same time, in its cost estimates, Subsentio has shown that the cost per subscriber is \$.05/month or less for companies with 20,000 subscribers or

more. At that cost, we feel a carrier should either absorb the cost or have the option of collecting that from their subscriber base as suggested by Law Enforcements Joint Petition for Rulemaking.

Subsentio is concerned however about cost recovery for the smaller rural carriers. They simply cannot reach the economies of scale necessary to drive CALEA costs down. At the same time, we cannot leave the countries widespread rural networks without the ability to assist law enforcement with electronic surveillance capabilities.

The combined cost for CALEA compliance for small rural carriers would be \$.01/per subscriber/month or less if it was spread across all subscribers nation wide. Subsentio would support any plan based on a nation wide flat monthly charge that would support the rural carrier market in this regard.

Respectfully submitted,

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